NOTES ON *AGRILUS POLITUS POLITUS* SAY AND *AGRILUS POLITUS BURKEI* FISHER (COLEOPTERA: BUPRESTIDAE).

CHRIS MASER AND FRANK M. BEER

Puget Sound Museum of Natural History, University of Puget Sound, Tacoma, Washington, 98416, and Department of General Science, Oregon State University, Corvallis, Oregon, 97331, respectively.

ABSTRACT

Agrilus politus politus Say, found on willow, and *A.p. burkei* Fisher, found on alder, are rarely found together and then only when the hosts occur together. Possible hybrids, based on color differences, were found on 2 such occasions in Oregon and California.

On 12 June 1969, specimens of typical *Agrilus politus burkei* Fisher were collected 10 miles west of Junction City, Lane County, Oregon, at an elevation of 450 feet. The habitat was a marshy swale along the side of a small, slowly flowing creek which was bordered by dense brush. The beetles were taken, where they spent the night, from the upper surface of the leaves of young red alder (*Alnus rubra* Bong.). 3 to 5 feet tall. No specimens were found on the under surfaces of the leaves, and none could be found on the trunks. They arrived at the leaves approximately an hour to ½ hour before dark and positioned themselves along the midrib, head upward. No more than 1 individual was observed per leaf.

In the morning they remained in the same place and position as the evening before until the dew, which covered them with a visible layer of moisture, had evaporated. They left the leaves very shortly after they were dry. During the late evening and early morning they could be collected easily by tapping them from the leaves into a killing jar. However, the receptacle had to be directly below, because when the leaves were disturbed, the beetles simply released themselves.

The status of this subspecies has been uncertain, some writers considering it a valid species, though Fisher (1928) described it as a subspecies of *politus*. The form is rather widely distributed along the northwest coast area of the United States and southern Canada, extending southward into northern California. Only rarely are the nominate species and its subspecies found together, and then only when each of their host plants (willow and alder respectively) occur together. On 17-18 June 1960, along Trout Creek, 19 miles southeast of Fields, Harney County, Oregon, *politus* and *burkei* were taken together in good series. Along with them, a brassy, blue-green form occurred, less than one-fourth of the population belonging to this group. Likewise, at Castle Crags, Shasta County, California, both *politus* and *burkei* were taken together along a small stream, and here a single male of the blue-green phase was taken on 21 June 1964. Not much variation in color was observed among the brassy forms collected, nor in fact among the 2 subspecies being discussed. Careful examination of the 3

forms suggests that hybridization is involved. Studies are needed on subspecies crosses, breeding among the presume hybrids, and information on the hybrid's host preference, if any.

Literature Cited

Fisher, W. S. 1928. A revision of the North American species of buprestid beetles belonging to the genus *Agrilus*. U. S. Nat'l. Mus. Bull. 145: 1-347.

BOOK REVIEW

Ice Ages, Their Nature and Effects by Ian Cornwall. 1970. 180 p., 41 text fig., 15 photos. Humanities Press, Inc., 303 Park Ave. South, New York, N. Y. 10010. Cloth, $9.50.

Anyone interested in present distribution patterns of animals and plants must become familiar with the many past geological factors which influence them. The 2 million year period of the Pleistocene, although still poorly known, has played a major role in forming these patterns. The author states it as follows:

> "The ice-ages intruded, with repeated and cumulative climatic stresses, on a world which, for a very long time previously, had enjoyed widespread warm, equable oceanic climates. Their effects on living organisms, both plant and animal, were severe and in the case of many species (and even of larger groups) actually fatal. To many more, though surviving at present in parts of the world which afford them suitable conditions, their former wide distribution has been greatly restricted and dissected by Pleistocene geographical and environmental changes."

There are chapters dealing with physical effects of glaciers, effects of succeeding interglacials, historical outline of the Pleistocene, evidence for climatic sequences, floras and faunas, man in the Ice Age, chronology and dating, and causes of glaciation. There is an excellent glossary, but the bibliography is too brief, missing several major recent publications. The author is lecturer in environmental archaeology at the University of London, and the book naturally stresses European glaciation. It is recommended reading for anyone interested in the fascinating glaciers and zoogeography. We could use such a book with more emphasis on the New World Pleistocene.

(R. E. Woodruff)